



Date: 1/19/23

Performed by: Andrew Tinklenberg

Location: Pratt School – 66 Malcolm Avenue SE, Minneapolis, MN 55414

RE: Radon Testing

INTRODUCTION

From November 21 – 23, 2022, radon testing was performed within Pratt School located at 66 Malcolm Avenue SE in Minneapolis, MN. The testing was performed to ensure that radon gas concentrations within the building are below the established regulatory limits. Testing was conducted under normal occupied building conditions in frequently-occupied ground contact rooms and other areas in accordance with ANSI/AARST Protocols for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings 2014 with 1/21 Revisions and Minnesota Department of Health (MDH) guidelines.

SUMMARY OF FINDINGS

Ten (10) of the eleven (11) areas that were tested were found to have radon gas levels below 4.0 picocuries per liter of air (pCi/L), which is the EPA and MDH action level. (Note: Spike sampling is performed in conjunction with this testing, duplicate (side-by-side) sampling was conducted in select areas at a rate of 10% of areas tested, and “Room A” was a blank sample.)

Office/Mechanical Room 3B behind the gym was found to have radon gas levels above 4.0 picocuries per liter of air (pCi/L). When radon is detected at or above this level, the EPA and MDH recommend follow-up testing in the area. From November 28 – December 1, 2022, follow-up testing was performed using a continuous radon monitor (CRM). CRMs are recommended for follow-up testing because they give hour by hour results instead of just an overall average of the radon concentration during the test period. This can be helpful in knowing the radon gas concentrations in an area during occupied times. The CRM results for the follow-up testing were still found to be just above 4.0 pCi/L during the room’s occupied hours, which are from approximately 7:00 AM – 3:30 PM. Because the area was designed as a mechanical/storage room and not an occupied office space, no ventilation is present. Following this however, MPS Trades initiated a small project to have ventilation added to the space.

From January 17 – 19, 2023, post-mitigation testing was performed in the area again using a CRM. The radon gas concentration during occupied times, as well as the overall average radon gas concentration was now found to be well below 4.0 pCi/L with an average radon gas concentration of 1.4 pCi/L. The testing verified that the new ventilation system in the room is working properly and maintaining average radon gas concentrations below the EPA and MDH action level.

REMARKS

The radon test kits were submitted to and analyzed by AirChek, Inc., 1936 Butler Bridge Rd, Mills River, NC 28759 (MN License #RL-00003). Please refer to the attached AirChek radon testing report and sample diagrams for further information concerning the radon testing, areas that were tested, and the radon levels that were found to be present. Per MDH requirements, this information will be shared with the local regulatory agency (MDH - health.indoorair@state.mn.us, Phone # 651-201-4601) and incorporated in an MPS’ board meeting.

The information will also be posted on the EH&S webpage available through the main MPS website and maintained on file by EH&S.

Every effort was made to maintain closed building conditions and HVAC systems are monitored and controlled remotely by MPS Direct Digital Control (DDC) personnel. Any deviation in building conditions or sampling protocol which could have an impact on the testing and test results is described in the summary above. If any unoccupied areas that were not tested are planned for future occupancy, contact EH&S so that the areas can be tested. Unless specified, all QA/QC measurements were within the required limits. Radon testing is to be performed in MPS District buildings every 5 years or any time major renovation activities take place which have the potential to impact the building's foundation or HVAC systems. Refer to the attached test condition summary and ANSI/AARST advisories for additional information concerning the radon testing.

If you have any questions regarding this information, please feel free to contact me. Thank you,



Andrew Tinklenberg
MDH RMEA-00426
NRPP ID# 111389 RT



Safety Specialist - Environmental Health & Safety
Minneapolis Public Schools
Environmental Health & Safety - Facilities Dept.
1225 N. 7th Street, Minneapolis, MN 55411
andrew.tinklenberg@mpls.k12.mn.us
612-668-0306 Phone
612-668-0310 EH & S General Office
612-668-0275 Fax



Attachments

- Radon Testing Results
- Floor Plans
- Notification Documents
- Test Condition Summary
- ANSI/AARST Advisory Statements

INITIAL RADON TESTING RESULTS

I5554 / ANDREW TINKLENBERG / MINNEAPOLIS PUBLIC SCHOOLS

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
11268266	2022-11-21	8:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	OFFICE 03	PRATT	0	1.6
11268267	2022-11-21	8:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	OFFICE 03	PRATT	0	1.6
11268268	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	CLASSROOM 09	PRATT	0	1.3
11268269	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	CAFETERIA 17	PRATT	0	1.8
11268270	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	CLASSROOM 15	PRATT	0	1.5
11268271	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	KITCHEN 16	PRATT	0	1.7
11268272	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	OFFICE 14	PRATT	0	1.4
11268273	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	OFFICE 3B	PRATT	0	7.4
11268274	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	GYM 10	PRATT	0	3.2
11268275	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	GYM 10	PRATT	0	2.4
11268276	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	CLASSROOM 108	PRATT	1	1.0
11268277	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	CLASSROOM 107	PRATT	1	2.2
11268278	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	CLASSROOM 205	PRATT	2	0.9
11268279	2022-11-21	9:00 am	2022-11-23	3:00 pm	70	MPS PRATT	MPS PRATT	ROOM A	PRATT	1	<0.3

FOLLOW-UP RADON TESTING RESULTS



Radon Inspection Report

Test Location:

Pratt - Room 3B
66 Malcolm Avenue SE
Minneapolis, MN 55414

Test For:

Type: Follow Up

Inspected By:

Andrew Tinklenberg
1225 N. 7th Street
Minneapolis, MN 55411
612-668-0310

Bldg. Type: Educational

Test Result: Fail

Overall Average:

5.1 pCi/l

EPA Average:

5.3 pCi/l

Test Device Details:

Serial Number: 246216011
Model Number: 1030
Last Calibration: 09/26/2022
Next Calibration: 09/26/2023
Cal-Factors: 2.52,2.56,2.67,2.52,2.55,2.61
Motion Error: Yes

Test Site Condition:

Condition: Recent Snowfall
Wind: 11-15mph

Test Summary:

CRM Location:	<u>Start:</u> 11/28/2022 10:27 AM	<u>Stop:</u> 12/01/2022 10:27 AM	<u>Interval:</u> 1 hr	<u>Duration:</u> 72 hr
*First 4 hrs of data excluded	<u>Min:</u>	<u>Max:</u>	<u>Average:</u>	<u>Measurement Units:</u>
Radon Concentration:	0.2	11.7	5.3	pCi/l
Temperature	73.4	76.6	75.1	F
Humidity	11	21	16	%
Pressure	28.90	29.64	29.21	inHg

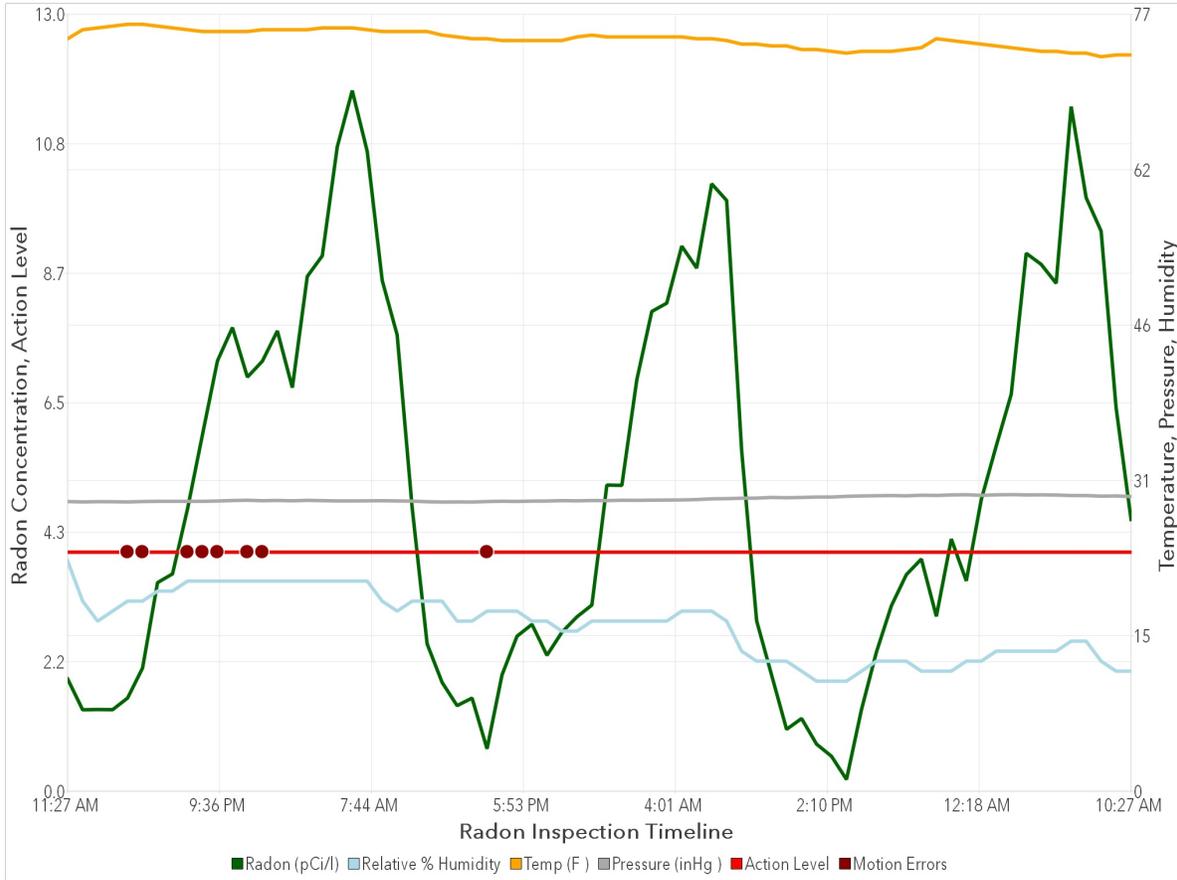
Comments:

Lic/Cert Signature

Inspection Report Date: 12/01/2022



Radon Inspection Chart



Test Result: Fail

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 12/01/2022



Test Checklist

- The location of the detector was selected so the detector was not to be disturbed during testing.
- The monitor was not placed in an area of high humidity such as: Kitchen, laundry room, cellar, spa room, garage, crawl space or sump area.
- The detector was not located near drafts caused by HVAC vents, windows and doors.
- The detector was not placed near areas of excessive heat, such as a fireplace or in direct sunlight.
- The detector was placed within the breathing zone of at least 20 inches to 6 feet above the floor and at least 1 foot below the ceiling if suspended.
- The detector was not placed within 1 foot of outside walls of the home or within 3 feet of any windows or doors to the exterior of the home.

Test Result: Fail

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 12/01/2022



Test Table

* Data from first 4 hours excluded from EPA calculations

Date/Time	Radon(pCi/l)	Temp(F)	Pres(inHg)	Humidity(%)	Flags
11/28/22 11:27 AM	1.9	75.2	28.95	23	-
11/28/22 12:27 PM	1.4	76.1	28.91	19	-
11/28/22 01:27 PM	1.4	76.3	28.94	17	-
11/28/22 02:27 PM	1.4	76.5	28.93	18	-
11/28/22 03:27 PM	1.6	76.6	28.91	19	M
11/28/22 04:27 PM	2.1	76.6	28.95	19	M
11/28/22 05:27 PM	3.5	76.5	28.97	20	-
11/28/22 06:27 PM	3.6	76.3	28.97	20	-
11/28/22 07:27 PM	4.7	76.1	28.97	21	M
11/28/22 08:27 PM	6.0	75.9	28.97	21	M
11/28/22 09:27 PM	7.2	75.9	29.00	21	M
11/28/22 10:27 PM	7.8	75.9	29.05	21	-
11/28/22 11:27 PM	6.9	75.9	29.08	21	M
11/29/22 12:27 AM	7.2	76.1	29.03	21	M
11/29/22 01:27 AM	7.7	76.1	29.06	21	-
11/29/22 02:27 AM	6.8	76.1	29.02	21	-
11/29/22 03:27 AM	8.6	76.1	29.07	21	-
11/29/22 04:27 AM	9.0	76.3	29.04	21	-
11/29/22 05:27 AM	10.8	76.3	29.01	21	-
11/29/22 06:27 AM	11.7	76.3	29.01	21	-
11/29/22 07:27 AM	10.7	76.1	29.02	21	-
11/29/22 08:27 AM	8.5	75.9	29.03	19	-
11/29/22 09:27 AM	7.6	75.9	29.01	18	-
11/29/22 10:27 AM	4.7	75.9	28.99	19	-
11/29/22 11:27 AM	2.5	75.9	28.93	19	-
11/29/22 12:27 PM	1.8	75.6	28.90	19	-
11/29/22 01:27 PM	1.4	75.4	28.91	17	-
11/29/22 02:27 PM	1.6	75.2	28.90	17	-
11/29/22 03:27 PM	0.7	75.2	28.95	18	M
11/29/22 04:27 PM	1.9	75.0	28.98	18	-
11/29/22 05:27 PM	2.6	75.0	28.96	18	-
11/29/22 06:27 PM	2.8	75.0	28.99	17	-
11/29/22 07:27 PM	2.3	75.0	29.00	17	-
11/29/22 08:27 PM	2.7	75.0	29.04	16	-
11/29/22 09:27 PM	2.9	75.4	29.02	16	-
11/29/22 10:27 PM	3.1	75.6	29.05	17	-
11/29/22 11:27 PM	5.1	75.4	29.04	17	-
11/30/22 12:27 AM	5.1	75.4	29.08	17	-
11/30/22 01:27 AM	6.9	75.4	29.07	17	-
11/30/22 02:27 AM	8.0	75.4	29.09	17	-
11/30/22 03:27 AM	8.2	75.4	29.10	17	-
11/30/22 04:27 AM	9.1	75.4	29.11	18	-
11/30/22 05:27 AM	8.8	75.2	29.15	18	-
11/30/22 06:27 AM	10.2	75.2	29.22	18	-

Test Result: Fail

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 12/01/2022



Test Table

* Data from first 4 hours excluded from EPA calculations

Date/Time	Radon(pCi/l)	Temp(F)	Pres(inHg)	Humidity(%)	Flags
11/30/22 07:27 AM	9.9	75.0	29.24	17	-
11/30/22 08:27 AM	5.7	74.7	29.28	14	-
11/30/22 09:27 AM	2.9	74.7	29.29	13	-
11/30/22 10:27 AM	1.9	74.5	29.36	13	-
11/30/22 11:27 AM	1.0	74.5	29.33	13	-
11/30/22 12:27 PM	1.2	74.1	29.36	12	-
11/30/22 01:27 PM	0.8	74.1	29.40	11	-
11/30/22 02:27 PM	0.6	73.9	29.40	11	-
11/30/22 03:27 PM	0.2	73.8	29.47	11	-
11/30/22 04:27 PM	1.4	73.9	29.51	12	-
11/30/22 05:27 PM	2.3	73.9	29.53	13	-
11/30/22 06:27 PM	3.1	73.9	29.55	13	-
11/30/22 07:27 PM	3.6	74.1	29.52	13	-
11/30/22 08:27 PM	3.9	74.3	29.58	12	-
11/30/22 09:27 PM	2.9	75.2	29.56	12	-
11/30/22 10:27 PM	4.2	75.0	29.61	12	-
11/30/22 11:27 PM	3.5	74.8	29.63	13	-
12/01/22 12:27 AM	4.9	74.7	29.57	13	-
12/01/22 01:27 AM	5.8	74.5	29.62	14	-
12/01/22 02:27 AM	6.6	74.3	29.64	14	-
12/01/22 03:27 AM	9.0	74.1	29.61	14	-
12/01/22 04:27 AM	8.8	73.9	29.62	14	-
12/01/22 05:27 AM	8.5	73.9	29.60	14	-
12/01/22 06:27 AM	11.5	73.8	29.55	15	-
12/01/22 07:27 AM	9.9	73.8	29.55	15	-
12/01/22 08:27 AM	9.4	73.4	29.49	13	-
12/01/22 09:27 AM	6.4	73.6	29.51	12	-
12/01/22 10:27 AM	4.5	73.6	29.45	12	-

Test Result: Fail

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 12/01/2022

Radon Test Information

Minnesota Notice to Clients

For more information on radon, please contact the Minnesota Department of Health at 651-201-4601 or health.indoorair@state.mn.us or visit their website at <http://www.health.state.mn.us/divs/eh/indoorair/radon/index.html>.

Test Result: Fail

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 12/01/2022

POST-MITIGATION RADON TESTING RESULTS



Radon Inspection Report

Test Location:

Pratt - Room 3B
66 Malcolm Avenue SE
Minneapolis, MN 55414

Test For:

Type: Post-Mitigation

Inspected By:

Andrew Tinklenberg
1225 N. 7th Street
Minneapolis, MN 55411
612-668-0310

Bldg. Type: Educational

Test Result: Pass

Overall Average:

1.4 pCi/l

EPA Average:

1.4 pCi/l

Test Device Details:

Serial Number: 246216011
Model Number: 1030
Last Calibration: 09/26/2022
Next Calibration: 09/26/2023
Cal-Factors: 2.52,2.56,2.67,2.52,2.55,2.61
Motion Error: Yes

Test Site Condition:

Condition: Recent Snowfall

Test Summary:

CRM Location:	<u>Start:</u> 01/17/2023 07:15 AM	<u>Stop:</u> 01/19/2023 07:15 AM	<u>Interval:</u> 1 hr	<u>Duration:</u> 48 hr
*First 4 hrs of data excluded	<u>Min:</u>	<u>Max:</u>	<u>Average:</u>	<u>Measurement Units:</u>
Radon Concentration:	0.3	4.5	1.4	pCi/l
Temperature	72.1	74.7	73.7	F
Humidity	15	18	16	%
Pressure	28.95	29.35	29.17	inHg

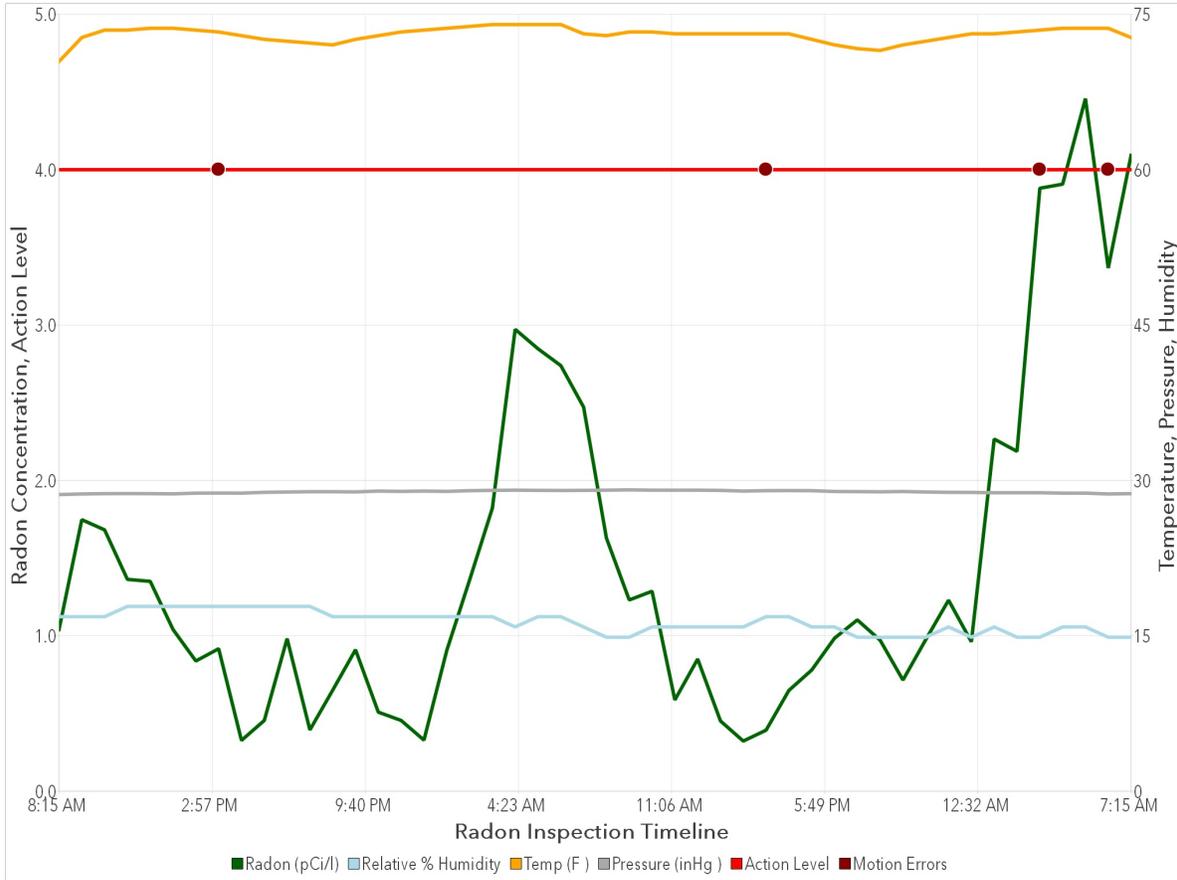
Comments:

Lic/Cert Signature

Inspection Report Date: 01/19/2023



Radon Inspection Chart



Test Result: Pass

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 01/19/2023

Test Checklist

- The location of the detector was selected so the detector was not to be disturbed during testing.
- The monitor was not placed in an area of high humidity such as: Kitchen, laundry room, cellar, spa room, garage, crawl space or sump area.
- The detector was not located near drafts caused by HVAC vents, windows and doors.
- The detector was not placed near areas of excessive heat, such as a fireplace or in direct sunlight.
- The detector was placed within the breathing zone of at least 20 inches to 6 feet above the floor and at least 1 foot below the ceiling if suspended.
- The detector was not placed within 1 foot of outside walls of the home or within 3 feet of any windows or doors to the exterior of the home.

Test Result: Pass

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 01/19/2023



Test Table

* Data from first 4 hours excluded from EPA calculations

Date/Time	Radon(pCi/l)	Temp(F)	Pres(inHg)	Humidity(%)	Flags
01/17/23 08:15 AM	1.0	71.1	28.89	17	-
01/17/23 09:15 AM	1.7	73.4	28.95	17	-
01/17/23 10:15 AM	1.7	74.1	28.98	17	-
01/17/23 11:15 AM	1.4	74.1	28.99	18	-
01/17/23 12:15 PM	1.4	74.3	28.98	18	-
01/17/23 01:15 PM	1.0	74.3	28.96	18	-
01/17/23 02:15 PM	0.8	74.1	29.03	18	-
01/17/23 03:15 PM	0.9	73.9	29.04	18	M
01/17/23 04:15 PM	0.3	73.6	29.03	18	-
01/17/23 05:15 PM	0.5	73.2	29.11	18	-
01/17/23 06:15 PM	1.0	73.0	29.14	18	-
01/17/23 07:15 PM	0.4	72.9	29.17	18	-
01/17/23 08:15 PM	0.7	72.7	29.17	17	-
01/17/23 09:15 PM	0.9	73.2	29.15	17	-
01/17/23 10:15 PM	0.5	73.6	29.23	17	-
01/17/23 11:15 PM	0.5	73.9	29.20	17	-
01/18/23 12:15 AM	0.3	74.1	29.23	17	-
01/18/23 01:15 AM	0.9	74.3	29.20	17	-
01/18/23 02:15 AM	1.4	74.5	29.27	17	-
01/18/23 03:15 AM	1.8	74.7	29.30	17	-
01/18/23 04:15 AM	3.0	74.7	29.32	16	-
01/18/23 05:15 AM	2.8	74.7	29.30	17	-
01/18/23 06:15 AM	2.7	74.7	29.29	17	-
01/18/23 07:15 AM	2.5	73.8	29.30	16	-
01/18/23 08:15 AM	1.6	73.6	29.32	15	-
01/18/23 09:15 AM	1.2	73.9	29.35	15	-
01/18/23 10:15 AM	1.3	73.9	29.32	16	-
01/18/23 11:15 AM	0.6	73.8	29.32	16	-
01/18/23 12:15 PM	0.9	73.8	29.32	16	-
01/18/23 01:15 PM	0.5	73.8	29.30	16	-
01/18/23 02:15 PM	0.3	73.8	29.23	16	-
01/18/23 03:15 PM	0.4	73.8	29.27	17	M
01/18/23 04:15 PM	0.6	73.8	29.28	17	-
01/18/23 05:15 PM	0.8	73.2	29.27	16	-
01/18/23 06:15 PM	1.0	72.7	29.19	16	-
01/18/23 07:15 PM	1.1	72.3	29.18	15	-
01/18/23 08:15 PM	1.0	72.1	29.16	15	-
01/18/23 09:15 PM	0.7	72.7	29.19	15	-
01/18/23 10:15 PM	1.0	73.0	29.14	15	-
01/18/23 11:15 PM	1.2	73.4	29.11	16	-
01/19/23 12:15 AM	1.0	73.8	29.10	15	-
01/19/23 01:15 AM	2.3	73.8	29.07	16	-
01/19/23 02:15 AM	2.2	73.9	29.07	15	-
01/19/23 03:15 AM	3.9	74.1	29.07	15	M

Test Result: Pass

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 01/19/2023



Test Table

* Data from first 4 hours excluded from EPA calculations

<u>Date/Time</u>	<u>Radon(pCi/l)</u>	<u>Temp(F)</u>	<u>Pres(inHg)</u>	<u>Humidity(%)</u>	<u>Flags</u>
01/19/23 04:15 AM	3.9	74.3	29.03	16	-
01/19/23 05:15 AM	4.5	74.3	29.03	16	-
01/19/23 06:15 AM	3.4	74.3	28.95	15	M
01/19/23 07:15 AM	4.1	73.4	28.98	15	-

Test Result: Pass

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 01/19/2023

Radon Test Information

Minnesota Notice to Clients

For more information on radon, please contact the Minnesota Department of Health at 651-201-4601 or health.indoorair@state.mn.us or visit their website at <http://www.health.state.mn.us/divs/eh/indoorair/radon/index.html>.

Test Result: Pass

Test Location: 66 Malcolm Avenue SE Minneapolis, MN 55414

Inspection Report Date: 01/19/2023

NOTIFICATION DOCUMENTS



MINNEAPOLIS
PUBLIC SCHOOLS

Urban Education. Global Citizens.

Environmental Health & Safety

Office: (612) 668-0310

Direct: (612) 668-0306

Andrew Tinklenberg

Safety Specialist

Environmental Health & Safety

RADON TESTING NOTIFICATION (2022)

Pratt School

The District will be conducting short-term radon testing at Pratt School. Radon is a naturally occurring radioactive gas that is created from the breakdown of Radium that is naturally present in soil. Radon can enter buildings from the soil through gaps, cracks and holes in the foundation. Radon testing is performed periodically and is being performed based on Minnesota Department of Health recommendations and protocols. As per the recommendations, frequently occupied, ground level or ground contact areas will be the focus of the testing. Sampling locations will be selected that provide the best representation of these areas.

If your room is selected for testing, please do your part by ensuring that the devices are not removed or tampered with in any way. The devices are small, rectangular envelopes, approximately 4 by 6 inches and will typically be hung from the ceiling or an interior wall. The short-term radon detectors are planned to be placed and collected November 21 – 23, 2022. When available, sample results will be shared with your principal and placed on the EH&S webpage available through the main MPS website.

An example of the detector is pictured below:



Thank you very much for your cooperation. If you have questions, please contact me at 612-668-0306 or andrew.tinklenberg@mpls.k12.mn.us

Notice of Inspection - Radon Survey in Progress

An important step is being taken to ensure a safe and healthy building. Testing for radon is recommended for all homes and schools.

Radon is a naturally occurring radioactive gas that can be present in some buildings are concentrations greater than recommended. In the United States, radon exposure is the second leading cause of lung cancer and it is the leading cause of lung cancer in nonsmokers.

Radon testing is scheduled for:

Building(s): Pratt

Building Area(s): Throughout

Test Start Date: 11/21/22

Test End Date: 11/23/22

Access into your unit/room is: required not required

PLEASE START THE FOLLOWING BY:

Please help to maintain the following required test conditions:

- **Windows and Doors** need to be kept closed (aside from momentary entry and exit) on all levels of the building including areas not being tested,
- **Heating and cooling systems** need to set to normal temperatures (65-80°F),
- **Bathroom fans** should operate normally,
- Do not operate wood-burning or natural gas **fireplaces**,
- **Energy recovery ventilators (ERV) or heat recovery ventilators (HRV)** should be set to the lowest level they are used at through the year, and
- Avoid excessive operation of **exhaust systems** that draw air from laundries, workshops, community kitchens.

For inquiries or reporting concerns:

Contact Person: Andrew Tinklenberg

Phone: 612-668-0306

Visit mn.gov/radon for more information about radon

Authorizations and Lines of Communications

Please complete the following to help us clarify lines of communication and responsibilities.

Staff authorized to respond to occupant and public inquiries:

Title/Name: Lee Setter Phone: 612-668-0310 Email: lee.setter@mpls.k12.mn.us

Title/Name: Phone: Email:

Person(s) authorized to receive report data and any incremental reports:

Title/Name: Lee Setter Phone: 612-668-0310 Email: lee.setter@mpls.k12.mn.us

Title/Name: Andrew Tinklenberg Phone: 612-668-0306 Email: andrew.tinklenberg@mpls.k12.mn.us

Frequency of reports: Prior to testing After each phase of testing When testing is complete

Client & Facilitating Staff Contact Information

Client/Authorized Agent: Lee Setter Phone: 612-668-0310 Email: lee.setter@mpls.k12.mn.us

Onsite Supervisor: Andrew Tinklenberg Phone: 612-668-0306 Email: andrew.tinklenberg@mpls.k12.mn.us

Building Access: Andrew Tinklenberg Phone: 612-668-0306 Email: andrew.tinklenberg@mpls.k12.mn.us

HVAC Operations: Jason Kohlen Phone: 612-668-0338 Email: Jason.kohlen@mpls.k12.mn.us

Other Contacts (Title/Name): Phone: Email:

Radon Testing Professional Contact Information:

Scheduling/Logistics: Andrew Tinklenberg Phone: 612-668-0306 Email: andrew.tinklenberg@mpls.k12.mn.us

On-site Professional: Andrew Tinklenberg Phone: 612-668-0306 Email: andrew.tinklenberg@mpls.k12.mn.us

Licensed Field Technician: Andrew Tinklenberg Phone: 612-668-0306 Email: andrew.tinklenberg@mpls.k12.mn.us

Licensed Field Technician: Phone: Email:

Client Commitment to Compliance

By signing below, I am committing to help ensure that building conditions required to achieve reliable radon tests are met.

Management

Help Onsite Supervisors and Building Operations Staff maintain closed-building conditions and meet the requirements list above.

Name: Andrew Tinklenberg@mpls.k12.mn.us

Signature: 

Date: 11/21/22

Onsite Supervisor

To help ensure reliable radon tests, the onsite supervisor will:

- **Prior Notification:** distribute notices to all building occupants no later than the day before testing. Notices must be given to all occupants regardless if their unit/room is being tested and posted in publicly accessible areas such as corridors, elevators, and offices.
- **Access:** provide access to each test location within the building on the same day for the event of placing test devices and a second event for retrieving test devices.
- Name: Andrew Tinklenberg@mpls.k12.mn.us

Signature: 

Date: 11/21/22

Building Operations Staff

To help ensure reliable radon tests, Building Operations Staff will:

- **Building Preparation:** no later than 12 hours prior to the start of the test, review each building scheduled for testing for compliance with closed-building requirements.
- **Compliance Verification:** verify closed-building conditions and ensure that any repairs or adjustments that impact these conditions are completed 12 hours prior to the start of the test. Initial when verified.
- Name: Andrew Tinklenberg@mpls.k12.mn.us

Signature: 

Date: 11/21/22

Building Address: 66 Malcolm Ave. SE., Mpls., MN

Date Completed: 11/21/22 Initials: AJT

CLIENT COMMITMENT TO COMPLIANCE

Actions Required at Least 12 hours prior to test and throughout	
Windows	Close or seal on all levels of the building, including areas not being tested Exception: Do not close openings to outside to outside air designed to provide air needed for combustion appliances.
External doors (except for normal entry or exit)	
Other openings to the exterior (as a result of disrepair, incomplete construction or structural defect)	
Heating & Cooling Systems	Set to normal occupied temperatures: 65° - 80°F (Maintenance inspection of systems are recommended prior to testing)
Variable Outdoor Air Ventilation Systems (if applicable) Systems such as manually operated dampers, energy economizer systems, energy recovery ventilators (ERV), or heat recovery ventilators (HRV) that seasonally vary outdoor air ventilation for energy savings or comfort	Close outside air inlet dampers or set to minimum outdoor air intake settings that apply at all times of the year when a building is significantly occupied
Window Air Conditioners	Dampers to outside air shall be closed
Variable Air Volume (VAV) Systems (if applicable) Systems that temper room temperature using thermostats to vary the volume of heated or cooled air coming into rooms	Set all thermostats to between 65° - 80°F in all rooms that are served by the system
Return-Air Ducts laid in Soil (if applicable) Return-air ductwork is located under a slab, or otherwise laid in soil.	All testing company immediately
Heating, ventilation, and air conditioning (HVAC) setback in non-residential locations If non-residential rooms are operating with HVAC setback temperatures during nights or weekends that are outside of normal occupied temperatures of 65° - 80°F	Alter to retain temperatures within range of 65° - 80°F Or contact the testing company



Pratt Test Condition Summary

November 21-23, 2022 – Minneapolis, MN (Climate Zone 6)

	Annually	During Testing
Outdoor Temperatures	Average = 46° F	Max. = 43° F Min. = 21° F Average = 32° F
Operating Conditions (Heating/Cooling)	Heating – 50% Cooling – 25% Mixed – 25%	Heating – 100% Cooling – 0% Mixed – 0%
Air Distribution Systems	Intermittent during summer	Active

* - Note: No rain or snowfall was recorded during the testing period.

November 28 – December 1, 2022 – Minneapolis, MN (Climate Zone 6)

	Annually	During Testing
Outdoor Temperatures	Average = 46° F	Max. = 37° F Min. = 10° F Average = 23° F
Operating Conditions (Heating/Cooling)	Heating – 50% Cooling – 25% Mixed – 25%	Heating – 100% Cooling – 0% Mixed – 0%
Air Distribution Systems	Intermittent during summer	Active

* - Note: A winter storm as well as high winds were recorded during the testing period.

January 17-19, 2023 – Minneapolis, MN (Climate Zone 6)

	Annually	During Testing
Outdoor Temperatures	Average = 46° F	Max. = 34° F Min. = 26° F Average = 30° F
Operating Conditions (Heating/Cooling)	Heating – 50% Cooling – 25% Mixed – 25%	Heating – 100% Cooling – 0% Mixed – 0%
Air Distribution Systems	Intermittent during summer	Active

* - Note: Snowfall was recorded during the end of the testing period.

Informative Advisories

1. Fluctuations in radon concentrations are usually caused by either:
 - changes in the strength of indoor air pressures that draw soil gas into a building; or
 - changes in the volume of outside air entering a building.
2. Clear characterization of a radon hazard is more likely to occur when:
 - Outdoor temperatures extend below 65°F (18°C), at least intermittently, which causes natural indoor air pressures that draw radon laden soil gas into a building; and
 - Heating or cooling distribution fans are at least intermittently active during a test.
3. Measurements more likely to reflect an occupant's exposure to radon are measurements conducted under conditions that most closely align to the building operating conditions that prevail during the greatest amount of time each year.

* - Above advisory information is taken from page 31 of the ANSI/AARST Standard, "Protocols for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings, 2014 with 1/21." Additional advisory notes/information will be added when necessary. Weather information was collected from timeanddate.com/weather/usa/minneapolis.

ANSI/AARST ADVISORY STATEMENTS

8-A Reporting Low Radon Concentrations

Consider fixing the building if test results indicate radon concentrations greater than half the action level, (e.g., between 2 and 4 pCi/L). Responsible care requires repeating initial testing procedures for all building(s) at least every 5 years and in conjunction with any sale of a building. Radon testing should also be conducted when any of the following circumstances occur:

- a new addition is constructed or alterations for building reconfiguration or rehabilitation occur;
- a ground contact area not previously tested is occupied, or a building is newly occupied;
- heating or cooling systems are significantly altered, resulting in changes to air pressures or pressure relationships;
- ventilation is significantly altered by extensive weatherization, changes to mechanical systems or comparable procedures;
- significant openings to soil occur due to:
 - groundwater or slab surface water control systems that are altered or added (e.g., sumps, perimeter drain tile, shower/tub retrofits, etc.) or,
 - natural settlement causing major cracks to develop;
- earthquakes or construction blasting, fracking or formation of sink holes nearby; or
- a mitigation system is altered, modified or repaired.

Should testing indicate concentrations that meet or exceed the action level, conduct evaluations, corrections and further testing until radon concentrations have been mitigated to below the action level.

Table 8-B Reporting Elevated Radon Concentrations

Fix the building. Test results indicate occupants may be exposed to radon concentrations that meet or exceed the action level. Efforts to reduce radon concentrations are not complete until retests provide evidence of effectiveness. The initial retest should be conducted within 30 days after mitigation efforts and system installations.

Post-mitigation clearance testing to confirm each building is fixed requires testing all buildings that demonstrated elevated radon concentrations:

- 1) in all ground-contact rooms and dwellings,
- 2) in not less than 10% of non-residential rooms and dwellings on each upper floor.

Should testing indicate concentrations that meet or exceed the action level, conduct evaluations, corrections and further testing until radon concentrations have been mitigated to below the action level.

* - Above advisory information is taken from page 28-29 of the ANSI/AARST Standard, "Protocols for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings, 2014 with 1/21 Revisions." Additional advisory notes/information will be added when necessary.